REMARKS

Applicant respectfully requests consideration on the subject application.

This Response is submitted in response to the Office Action mailed February 28,

2008. Claims 1-14 and 27 were rejected. Note, though, that in the RCE

Amendment entered 12/19/2007 claim 27 was cancelled and replaced by claim

40. In this Amendment, claim 5 has been cancelled.

Claim Objections

The Examiner objected to claim 5 under 37 CFR 1.75(c), as being of improper

dependent form for failing to further limit the subject matter of a previous claim.

The Examiner objected that claim 5 is unclear, and that it seems to merely repeat

the phrase of claim 1, which does not include any more steps to be performed,

and as such the Examiner contended claim 5 fails to further limit claim 1. The

Examiner also referred to the 112 rejection below.

Applicant proposes to cancel claim 5, as suggested by the Examiner.

Accordingly, Applicant respectfully requests withdrawal of the claim

objections.

35 U.S.C. § 112 Rejections

The Examiner rejected claims 5 and 13 under 35 U.S.C. § 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the

subject matter which Applicant regards as the invention.

In particular, the Examiner contended claim 5 is prolix with long recitations of claims, and that it is unclear as to what is trying to be claimed. The Examiner contended that in claim 13 the limitation "the reverse strict ordinal ranking" has insufficient antecedent basis for this limitation in the claim.

As above in response to the Claim Objections, Applicant proposes to cancel claim 5.

With respect to claim 13, Applicant disagrees with the Examiner that the limitation "the reverse strict ordinal ranking" has insufficient antecedent basis for this limitation in the claim. The antecedent is "a strict ordinal ranking of the profiles in the profile pair", which appears earlier in the same claim. The relationship between this antecedent and the limitation "the reverse strict ordinal ranking" may be explained as follows.

The antecedent "a strict ordinal ranking of the profiles in the profile pair" refers to a specific strict ranking of a particular pair of profiles being considered. Note, as explained in the claims, a "profile" comprises "a set of two or more of the criteria, each criterion in the set associated with one of the categories for that criterion". The term "strict ranking" refers to one profile being ranked ahead of another. Thus, for the example of two profiles, x and y, "a strict ordinal ranking" is 'profile x ranked ahead of profile y'. The subsequent limitation "the reverse strict ordinal ranking" refers to the reverse ranking of the same two pairs, for example, 'profile y ranked ahead of profile x'.

Thus the limitation "the reverse strict ordinal ranking" in claim 13 has the antecedent "a strict ordinal ranking of the profiles in the profile pair" in the same claim.

Accordingly, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

35 U.S.C. § 101 Rejections

The Examiner rejected claims 1-14 and 40 under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

Due to the pending cases in the Federal Circuit, the PTO has issued Interim Guidelines to determine subject matter eligibility. The Interim Guidelines were clarified with respect to "Processes" in a Memorandum by John J. Love on May 15, 2008 (hereinafter "Memorandum"). The Memorandum provides that the first step in determining whether a claim recites patent eligible subject matter is to determine whether the claim falls within one of the four statutory categories of invention recited in 35 U.S.C. §101: process, machine, manufacture, and composition of matter. The latter three categories define "things" or "products" while a "process" consists of a series of steps or acts to be performed.

As noted in the Memorandum, a §101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying

subject matter (such as an article or materials) to a different state or thing. Thus, to qualify as a §101 statutory process, the claims should positively recite the other statutory class to which it is tied.

As presented, the claims positively recite the other statutory class of a computer readable medium and other apparatus performing the process and therefore qualify as a statutory process (see for example claims 14 and 40).

Furthermore, the most recent oral arguments presented by the U.S.P.T.O. under *In re Bilski* (Fed. Cir. 2008 - *en Banc*) propose that a processes tied to a computer are patent-eligible and do not need to transform matter to be patent eligible.

Secondly, the Memorandum indicates that the inquiry proceeds to determine whether the claimed invention falls within a judicial exception. The current invention is not a law of nature, per se, natural phenomena, per se, or abstract idea, per se. Examples of an abstract idea, according to the interim guidelines, are mathematical algorithms or legal rights. The present invention is not a mathematical algorithm or legal right and does not fall within a judicial exception.

Thirdly, the present invention has practical application by producing a useful, concrete and tangible result. As previously presented, the final result achieved by the claimed invention is useful, tangible, and concrete. The decision

support system is "useful" in that the invention is (1) specific, (2) substantial and (3) credible. The present invention is tangible because it produces a "real world" result. Furthermore, the present invention is concrete because the results are reproducible.

The Examiner contended the claims fail to provide a tangible or concrete result. In particular, claims 1, 14 and 27 recite "receiving from the decision maker an ordinal pairwise ranking of the profiles." The Examiner contended that the decision received from the decision maker lacks concreteness, i.e. if the <u>same</u> profiles are given to the <u>same</u> decision maker, the pairwise ranking will be <u>different</u>. Hence, the results are based on subjective criteria, and are not repeatable.

In the Applicant's arguments filed 12/19/2007, Applicant misunderstood the Examiner's contention of 8/15/2007 (pg. 4-5), repeated in the latest Office Action as above, that "given the <u>same</u> profiles to the <u>same</u> decision maker, the pairwise ranking can be <u>different</u>." Applicant mistakenly agreed with this contention. Applicant meant instead to <u>disagree</u> with it. That is, in fact, the Examiner's contention is <u>not</u> correct. Thus, it is instead correct to say that "if the <u>same</u> profiles are given to the <u>same</u> decision maker, the pairwise ranking will be the <u>same</u>." Thus the results are <u>not</u> based on subjective criteria and they <u>are</u> repeatable.

The above outcome, "if the <u>same</u> profiles are given to the <u>same</u> decision maker, the pairwise ranking will be the <u>same</u>", may be explained as follows. A

pairwise ranking means here a ranking of two profiles, such as *'profile x is ranked ahead of profile y'*. If a given decision maker were to rank these two profiles this way the first time, and the <u>same</u> two profiles were given to the <u>same</u> decision maker to rank again, then he or she would rank them the <u>same</u>, *'profile x ranked ahead of profile y'*. This will always be the <u>same</u> ranking every time the <u>same</u> profiles are given to the <u>same</u> decision maker to rank. Thus the results are <u>not</u> based on subjective criteria and they <u>are</u> repeatable.

Finally, the claimed invention does not preempt every "substantial practical application" of an abstract idea, law of nature or natural phenomena. Specifically, the claim does not seek patent protection for every substantial practical application of a mathematical algorithm.

The Examiner also contended under 35 U.S.C. § 101 that neither the claims nor the specification limit the invention to any practical invention, and hence the claims are also rejected because of preemption. First, there is no practical limitation recited in the claim. Second, the specification gives open-ended examples of practical applications (See spec pg. 9), which is unbounded. Third, the Applicant's remark (See pg. 21 of 5/25/2007) also admits an unbounded list of applications. Therefore the Examiner concludes that the claimed invention is preempting the idea.

Applicant disagrees. In particular, the invention claimed in claim 1 produces a useful, concrete and tangible output. Claim 1 requires: "solving a system of equalities/inequalities that represents the ordinal pairwise rankings of

profile pairs <u>to obtain at least one output</u>." Thus the claimed invention does <u>not</u> have an unbounded list of applications and the application is practical.

Thus, based on the Memorandum and PTO Interim Guidelines, the present invention is statutory.

Accordingly, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 101.

35 U.S.C. § 102 Rejections

The Examiner rejected claims 1-14 and 40 under 35 U.S.C. § 102(b) as being anticipated by Behnam Malakooti ("Ranking and Screening Multiple Criteria Alternatives with Partial Information and Use of Ordinal and Cardinal Strength of Preferences", *IEEE Transactions on Systems, Man, and Cybernetics*, 2000).

Applicant disagrees. Applicant submits that claims 1-14 and 40 are not anticipated by Malakooti.

The Examiner contended that Malakooti may be generally described as a decision support method that presents a pair of questions to a decision maker (DM), asks the DM to rank the questions on an ordinal scale, and then solves a system of mathematical programming problems to obtain a result (See at least the abstract, and Section D and E).

Applicant submits that this general description applies to a large number of methods in the application known as Multiple Criteria Decision Making (MCDM), and also Conjoint Analysis, of which there is a large international

literature and industry. This large international literature on MCDM shares many common 'key words', such "pairwise", "ordinal", "ranking", "preferences", "mathematical programming", "linear programming", etc. MCDM is concerned with producing rankings of alternatives that are defined on multiple criteria. Common to many methods for MCDM are the two main elements referred to above in the description of Malakooti: (1) solving a system of mathematical programming problems, and (2) pairwise ordinal ranking. Some of the methods for MCDM based on these two common elements are cited by Malakooti (see e.g. pg. 356). Both (1) mathematical programming and (2) pairwise ordinal ranking are generic techniques that, <u>by definition</u> given the nature of MCDM, would be expected to be included in many methods for MCDM, despite these methods being different from each other. These two elements are explained in detail as follows.

First, with respect to mathematical programming (including linear programming), this is a general mathematical technique or 'tool' encompassing a wide range of methods and specific applications. What distinguishes one application of mathematical programming from another is the specific components of the particular mathematical programmes (or linear programmes) employed. The linear programmes referred to in the Applicant's invention, as defined in the Applicant's claims, are different to the linear programmes referred to in Malakooti, and they are also different to linear programmes defined by other methods for MCDM. Specifically, the mathematical objectives

Hansen et al.
Application No.: 10/561,370   - 18 -

Examiner: Lut Wong
Art Unit: 2129

and constraints, i.e. the components of the linear programmes, are different in the Applicant's invention and Malakooti respectively.

Second, with respect to pairwise ordinal ranking, i.e. one alternative is ranked ahead of another or they are tied, this is a common approach for discovering the ordinal preferences of decision makers for the alternatives being considered. Pairwise ordinal ranking is a common approach for obtaining this 'raw' preferences data that is used by many methods for MCDM. This is because pairwise ordinal rankings, i.e. data about how pairs of alternatives are ranked relative to each other, are intrinsic to the definition of an overall ranking of all alternatives being considered. Historically, pairwise ordinal ranking has been an element of many formal and informal methods for MCDM. Thus it is axiomatic that pairwise ordinal ranking is a common element of many methods for MCDM, including the Applicant's invention and Malakooti respectively.

Methods for MCDM differ, however, with respect to their specific algorithms for determining how such pairwise ordinal ranking data are managed and applied in order to define an overall ranking of alternatives. The algorithms in the Applicant's invention, as defined in the claims, are different to Malakooti's algorithms, and they are also different to other algorithms in other methods for MCDM. Specifically, for example, the algorithms in the Applicant's invention for generating the questions involving profile pairs from which the DM's pairwise ordinal rankings are obtained, and also the algorithms by which

Hansen et al.
Application No.: 10/561,370   - 19 -   Examiner: Lut Wong
Art Unit: 2129

profile pairs that are implicitly ordinally pairwise ranked as corollaries of the DM's pairwise ordinal rankings are identified, are novel.

Before responding to each of claims 1-14 and 40 individually with respect to the Examiner's contentions that they are anticipated by Malakooti, it is important to bring to the Examiner's attention that, in fact, pairwise ordinal rankings is <u>not</u> Malakooti's main focus. Instead, Malakooti's stated main focus is "cardinal and ordinal <u>strength of preferences</u>". Evidence for this assertion is presented below. "Strength of preferences" means that in <u>addition</u> to ordinal pairwise ranking, i.e. one alternative ranked ahead of another or they are tied, the <u>strength</u> of that preference is captured as well, involving additional information about the ranking such as one alternative is <u>strongly</u>, or, alternatively, <u>weakly</u>, ranked ahead of another. This strength of preference can be represented quantitatively or qualitatively, i.e. with respect to "cardinal and ordinal strength of preferences", as referred to in the title of Malakooti's article. Because of these additional, and more stringent, informational requirements, methods for MCDM based on "strength of preferences", such as Malakooti, are intrinsically different from methods based exclusively on "ordinal pairwise ranking", such as the Applicant's invention.

Evidence for Malakooti's stated main focus being "cardinal and ordinal strength of preferences" includes the title of Malakooti's article: "Ranking and screening multiple criteria alternatives with partial information and <u>use of ordinal and cardinal strength of preferences</u>". In addition, Malakooti states in his Introduction,

"This paper also presents a novel way for assessment and generation of partial information using strength of preference questions.", and on pg. 356, "Our ordinal approach is different for above methods [i.e. the extant literature on methods for MCDM] since we use strength of preference information to represent ordinal information." (also see e.g. the Abstract). From Section IV (pg. 363) onwards, Malakooti deals exclusively with strength of preferences. In contrast, the Applicant's invention is exclusively concerned with pairwise ordinal rankings, i.e. the Applicant's invention is not concerned with strength of preferences. Thus from Section IV onwards, Malakooti is irrelevant to the Applicant's invention.

Applicant now responds in detail, as follows, to each of claims 1-14 and 40 individually with respect to the Examiner's contentions (pg. 7-9) that they are anticipated by Malakooti.

Claims 1, 14 and 40: As discussed above, pairwise ordinal ranking is intrinsic to many methods for MCDM (Multiple Criteria Decision Making), for ranking alternatives defined on multiple criteria. Pairwise ranking is used by both the Applicant's invention and Malakooti. However, it is important to bring to the Examiner's attention that, in fact, Malakooti discussed using at least five approaches for obtaining DM's preferences, of which pairwise ordinal ranking is just one approach (see e.g. Section II, Part A, pg. 357). As discussed above, Malakooti's main focus is the "strength of preferences" approach.

The following are the most significant examples of differences between the Applicant's claims 1, 14 and 40 and Malakooti.

First, claims 1, 14 and 40 recite, "generating undominated profile pairs". Note, a "profile" comprises "a set of two or more of the criteria, each criterion in the set associated with one of the categories for that criterion", and an "undominated profile pair" is a pair of profiles where one is characterized by a higher ranked category for at least one criterion and a lower category for at least one other criterion than the other profile. Integral and fundamental to the Applicant's invention is an algorithm to generate undominated profile pairs , as represented in claims 6-12.

In contrast, Malakooti does not have an algorithm to generate undominated profile pairs. Instead, Malakooti simply has the DM pairwise rank alternatives directly. As discussed later below, this is because Malakooti has relatively few alternatives to rank, in contrast to the Applicant's invention, which, as in claim 3, is capable of ranking all possible alternatives, of which there may be many thousands, even millions, depending on the number of criteria and categories included. (See e.g. Malakooti's Section II A, pg. 357 where it states, "There are several methods to generate partial information, [as represented in Matrix Lambda]. Some of these approaches are listed below. a) Paired comparisons of some alternatives, i.e. if X_i is preferred to X_j, $U_i > U_j$. etc [i.e. plus another four such methods, b) to e), pg. 357-8, to generate partial information]". See also Section II D, pg. 359, "Given that the DM prefers X_8 to X_4 and X_2; and X_4 to X_3."). Thus, Malakooti does not generate undominated profile pairs, and has no such algorithm to do so.

Note also that Malakooti is concerned with applications where the alternatives being considered are defined on criteria with continuous values (See

Hansen et al.
Application No.: 10/561,370   - 22 -

Examiner: Lut Wong
Art Unit: 2129

e.g. Table I, pg. 359, and Table IV, pg. 366). In contrast, the Applicant's

invention is concerned with alternatives defined on criteria with discrete

categories.

Second, claims 1, 14 and 40 recite, "identifying profile pairs that are

implicitly ordinally pairwise ranked as corollaries of ordinal pairwise rankings

performed and excluding the profile pairs from subsequent presentation to the

decision maker." Integral and fundamental to the Applicant's invention is an

algorithm to do this. Specifically, this algorithm is represented in claim 13.

In contrast, Malakooti does not have the same algorithm. The Examiner

was mistaken to conclude that Malakooti has the same algorithm when the

Examiner cited "See e.g. section D. See also pg. 356 where it states "Based on

elicited partial information about the DM's preferences, we would partially rank and

screen alternatives. We can further divide the set of alternatives into two subsets; utility

efficient (or screened set), and utility inefficient. We show that the set of utility

inefficient alternatives can be eliminated because they are inferior to some of the utility

efficient alternatives." Specifically, for example, as explained earlier above, profile

pairs, as recited in claims 1, 14 and 40, are not the same as alternatives, as

referred to by Malakooti.

In addition, Malakooti admits the possibility that DM's preferences, as

captured by his algorithm, may be inconsistent, i.e. contradictory (See e.g.

Section III B, pg. 363, "In practice the DM may be inconsistent in her/his paired

comparison and strength of preference responses. To assess the effects of inconsistency

of the DM in terms of ranking alternatives, we propose the following approach.

Constraints of type (1) and (2) are modified into types (18) and (10)." [Note, where these constraints of these various types are components of Malakooti's algorithm.] In contrast, the Applicant's algorithm ensures that it is impossible for the DM to express any pairwise ordinal rankings that are inconsistent. Specifically, such inconsistencies are ruled out in claims 1, 14 and 40 where they recite, "identifying profile pairs that are implicitly ordinally pairwise ranked as corollaries of ordinal pairwise rankings performed and excluding the profile pairs from subsequent presentation to the decision maker."

Third, claims 1, 14 and 40 recite, "solving a system of equalities/inequalities that represents the ordinal pairwise rankings of profile pairs to obtain at least one output." This "system of equalities/inequalities" is different to the linear programme referred to by Malakooti. The Examiner was mistaken to conclude that Malakooti refers to the same linear programme when the Examiner cited "See e.g. section D. See also abstract where it states "Unlike other screening or ranking methods that require solving one linear (or nonlinear) programming problem for each pair of alternatives, the proposed algorithm obtains the same information very efficiently while by solving one mathematical programming problem many alternatives can be ranked and screened." As explained earlier above, the linear programmes in the Applicant's invention, as defined in the claims, are different to the linear programmes defined by Malakooti, and they are also different to linear programmes defined by other methods for MCDM. Specifically, the mathematical objectives and constraints, i.e. the components of the linear programmes, are different.

Claim 2: The Examiner contended that, because Malakooti refers to alternatives as having scores (See e.g. the Abstract), Malakooti anticipates claim 2 regarding "The decision support method of claim 1 wherein the at least one output comprises a point value for each category on each criterion". The Examiner was mistaken to conclude that Malakooti's algorithm produces point values (sometimes also known as 'weights' and 'scores'). It does not.

Instead, in contrast, Malakooti's algorithm determines (or infers) rankings of alternatives, not from their scores but rather from the signs (i.e. > 0, < 0, or $= 0$) of variables created by Malakooti and referred to as "Zi", which, until tested by Malakooti's algorithm, are unknown. Based on the sign of these Zi variables, Malakooti's algorithm determines the pairwise ordinal rankings of the alternatives being considered (See e.g. Malakooti's Theorem on pg. 358. See also pg. 361 where it states "To summarize our findings: Since $Z_{61} = 0$ and $Z_{16} = 0$, we cannot establish where X_1 is preferred to X_6 or vice versa [where X_1, X_6, etc are alternatives.]. Similarly the preference relationships between X_1 versus X_3 and X_2 versus X_4 are not known because $Z_{13} = 0$, $Z_{31} = 0$, $Z_{42} = 0$, and $Z_{24} = 0$. The information obtained from the DM was (read "$>°$ " as "preferred to") $X_8 >° X_4$, $X_8 >° X_2$, and $X_4 >° X_3$. Using our algorithm we deduced that: $X_8 >° X_2 >° X_3 >° X_6$, $X_8 >° X_4 >° X_3 >° X_6$, $X_8 >° X_4 >° X_1$, and $X_8 >° X_2 >° X_1$.").

Claim 3: The Examiner contended that Malakooti's algorithm is designed to or capable of ranking all possible alternatives, i.e. that it anticipates claim 3 regarding "The decision support method of claim 1 wherein the at least one output comprises a ranking of all possible profiles". Note, "all possible profiles"

refers to all mathematically possible combinations of the pre-defined and ordinally ranked categories on the criteria. The Examiner was mistaken to conclude that Malakooti's references to his algorithm's capability to "completely rank alternatives" means the same as "a ranking of all possible profiles" (See e.g. Introduction where it states "Several methods are presented to capture and represent the DM's preferences and then partially or completely rank alternatives."). "Completely rank alternatives" does not mean the same as "rank all possible alternatives.

Instead "completely rank alternatives" means a ranking of particular alternatives (not necessarily all possible alternatives) where all possible information is known about how these particular alternatives are ranked relative to each other, i.e. the information about the possible rankings for these particular alternatives is 'completely' known rather than 'partially' known. In contrast, as referred to in the Applicant's claim 3, "a ranking of all possible profiles " means a ranking of all possible combinations of the pre-defined and ordinally ranked categories on the criteria (or "all possible profiles "). Malakooti is instead referring to the possibility of a complete ranking of some of the alternatives, namely a small subset of all possible alternatives. Evidence for this is as follows.

As well as Malakooti making no mention of all possible alternatives being ranked, it is obvious to anyone with knowledge of methods for MCDM that Malakooti's algorithm is not designed to cope with the potentially very large numbers of alternatives that would be represented by all possible alternatives.

Hansen et al.
Application No.: 10/561,370

- 26 -

Examiner: Lut Wong
Art Unit: 2129

That is, infeasibly large amounts of computing power would be required to solve the extremely large linear programmes that would result if Malakooti's algorithm were to be applied to all possible alternatives, rather than a small subset of them, as the programme would contain potentially millions of constraints, and even billions, or more, constraints. This is because, as illustrated in Section II D, the linear programme contains $n(n - 1)/2$ constraints, where n is the number of alternatives to be ranked. For example, for even a relatively low number of criteria, such as 10, with a relatively low number of categories on each criterion, such as 5, n, i.e. the number of alternatives to be ranked, corresponds to $5^{10} = 9,765,625$. Thus $n(n - 1)/2$, i.e. the number of constraints in Malakooti's linear programme, equals 47,683,710,937,500. That is an impossibly large linear programme. In contrast, the Applicant's algorithm is capable of producing a complete ranking of all 9,765,625 possible alternatives in this example.

Claim 4: The Examiner contended that Malakooti's algorithm is designed to or capable of ranking a subset of all possible alternatives (See e.g. Introduction where it states "Several methods are presented to capture and represent the DM's preferences and then partially or completely rank alternatives.") As explained above, Applicant agrees that this is the purpose of Malakooti's algorithm. This is also one of the outputs of the Applicant's invention. However, all methods for MCDM in general produce at least this output. By definition, that is what MCDM (Multiple Criteria Decision Making) is concerned with, i.e. producing rankings of the alternatives being considered by the DM (decision maker). Thus,

Applicant respectfully submits that the Examiner's contention that Malakooti anticipates the Applicant's claim 4 is unreasonable.

Claim 5: As discussed above, in response to the Claim Objections, Applicant proposes to cancel claim 5, as suggested by the Examiner.

Claim 6-9: The Examiner contended that Malakooti's algorithm anticipates these four claims involving generating undominated profile pairs. As evidence, the Examiner cited Malakooti's Part D and Table II in Section IV . As explained earlier, from Section IV (pg. 363) onwards, Malakooti deals exclusively with "strength of preferences" . In contrast, the Applicant's invention is exclusively concerned with pairwise ordinal rankings, i.e. the Applicant's invention is not concerned with strength of preferences. Thus from Section IV onwards, Malakooti is irrelevant to the Applicant's invention. Therefore, it is not possible that Malakooti's Part D and Table II in Section IV have anticipated the Applicant's claims 6-9.

In addition, the Examiner contended that because Malakooti refers in Section II A (pg. 357) to "n-tuple" vectors and the Applicant's claim 9 refers to "z-tuples", Malakooti anticipates claim 9. Applicant disagrees. In mathematics, a "tuple" is simply a sequence, or an ordered list, of values, as in "triple", "quadruple" etc. Both Malakooti and claim 9 involve sequences of values, but they are different sequences of different values. Thus Malakooti and claim 9 are unrelated.

Hansen et al.
Application No.: 10/561,370

- 28 -

Examiner: Lut Wong
Art Unit: 2129

Claim 10: The Examiner contended that Malakooti anticipates this claim concerning the excluding of undominated profile pairs that are theoretically impossible. As evidence, the Examiner again cited pg. 356 where it states "We can further divide the set of alternatives into two subsets; utility efficient (or screened set), and utility inefficient. We show that the set of utility inefficient alternatives can be eliminated because they are inferior to some of the utility efficient alternatives." Applicant disagrees. The Examiner has confused "undominated profile pairs that are theoretically impossible", as in claim 10, with "utility inefficient alternatives", as in Malakooti. The former are combinations of categories on the criteria that could not possibly exist in the particular real-world application to which the Applicant's invention is applied. In contrast, the latter are combinations of categories on the criteria (or alternatives) that are lower ranked, but that are still possible, relative to other combinations (alternatives). Thus the Applicant's "undominated profile pairs that are theoretically impossible" and Malakooti's "utility inefficient alternatives" are different.

Claim 11-13: The Examiner contended that Malakooti anticipates these three claims concerning the generating of undominated profile pairs. As evidence, the Examiner cited section E on "eliminating implied pairs", and also section III B regarding "empty list handling". Applicant respectfully submits that the Examiner has mis-read or misunderstood Malakooti's sub-section E in either sections II and IV (E appears in both sections, and the Examiner does not state which sub-section E is meant), as there are no explicit or implicit references in either section to "implied pairs", or their elimination.

With respect to any references to "empty lists" in Section II B, Malakooti discusses the possibility of the set corresponding to the 'Matrix Lambda' being empty. Malakooti defines the Matrix Lambda as comprising linear equations representing the DM's preferences. In contrast, claims 11-13 refer to "a temporary list" that may become empty, where this list comprises undominated profile pairs. Note, as explained earlier above, a "profile" comprises "a set of two or more of the criteria, each criterion in the set associated with one of the categories for that criterion", and a "undominated profile pair" is a pair of profiles where one is characterized by a higher ranked category for at least one criterion and a lower category for at least one other criterion than the other profile. Thus the empty list referred to by Malakooti, i.e. where this list comprises linear equations representing the DM's preferences, is different to the empty list referred to in claims 11-13, i.e. where this latter list comprises undominated profile pairs, which have nothing to do with the DM's preferences.

Applicant submits that claims 1-14 and 40 are not anticipated by Malakooti. Accordingly, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. § 102.

Applicant respectfully submits that the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or
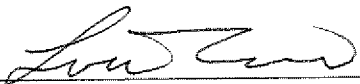
assist in the allowance of the present application, the Examiner is invited to call the undersigned at (408) 720-8300.

Please charge any shortages and credit any overages to Deposit Account No. 02-2666. Any necessary extension of time for response not already requested is hereby requested. Please charge any corresponding fee to Deposit Account No. 02-2666.

Respectfully submitted,

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